

Bushfire Web review

2006/7



Bushfire CRC

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**Safety bushfire warnings,
community links,
local media and the web.**

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DAMAGED HOUSE. ASH WEDNESDAY BUSH-FIRES, 1983.

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Community engagement
Street meeting organised by Country Fire Authority, Victoria – Upwey, Jan. 2007

Introduction and web sites reviewed

- Web based household bushfire advice

Most Australians don't live in fire prone areas. Those who do live in the bush or on a farm, or on a rural/urban interface. This section just considers access to information for people in fire-prone areas; *bushfire zones*, the quality and range of web bushfire information, and how to best link households in bushfire zones with all the information needed to maximise their safety.

This section considers the multiple sources of household fire preparedness information, providing web information and links internationally, nationally, by state and territory and some selected regions. A task for a high level national body to help shape development of one user-friendly *Dangerous weather* portal (Section 7) will be to consider all such information, for bushfire, for cyclone, storm surge, flood, destructive winds and hail; collate and synthesise into locally applicable safety-oriented information, then use many diagrams, graphics and photographs, film clips and simulations, with obvious links to real-time information and imagery for each hazard region, and each threat, all easily accessed in many Non English Speaking Households (NESH) languages from the *Dangerous weather* portal.

The following mainly relates to Southern Australia, more subjected to crown bush fires on the urban fringes in the warmer months than northern Australia, with grassland fires more in the cooler months and the build up to the wet. The North is admirably serviced by North Australian Fire Information (NAFI¹), with real-time mapped fire detail, wind speed and direction. NAFI and Sentinel², with fire-mapped current fire detail for the whole of Australia, will need to be embedded in the first layer of the Dangerous weather portal. These sites are extraordinary achievements but recently created and seemingly largely unknown. Users are able to zoom in to high detail to their own district and location. Readers are encouraged to search 'NAFI' or 'Sentinel fire'.

In matters of knowledge management, developing a streamlined, obvious and legible Dangerous weather portal is attempting to manage knowledge from the Weather Bureau, knowledge of local conditions, and provide 'active' preparation knowledge and motivation to local residents in a likely extreme weather impact zone, always aiming to minimise loss and maximise safety. The aspiration is knowledge management beyond one organisation: flexible, accessible and comprehensible.

"Standards Australia, in ... "Knowledge management: A framework for succeeding in the knowledge era" defines knowledge management as:

¹ <http://www.firenorth.org.au/nafi/app/init.jsp>
² <http://sentinel.ga.gov.au/acres/sentinel/index.shtml>

“Knowledge management is a multi-disciplined approach to achieving organization objectives by making the best use of knowledge – it focuses on processes such as acquiring, creating and sharing knowledge and the cultural and technical foundations to support them.”

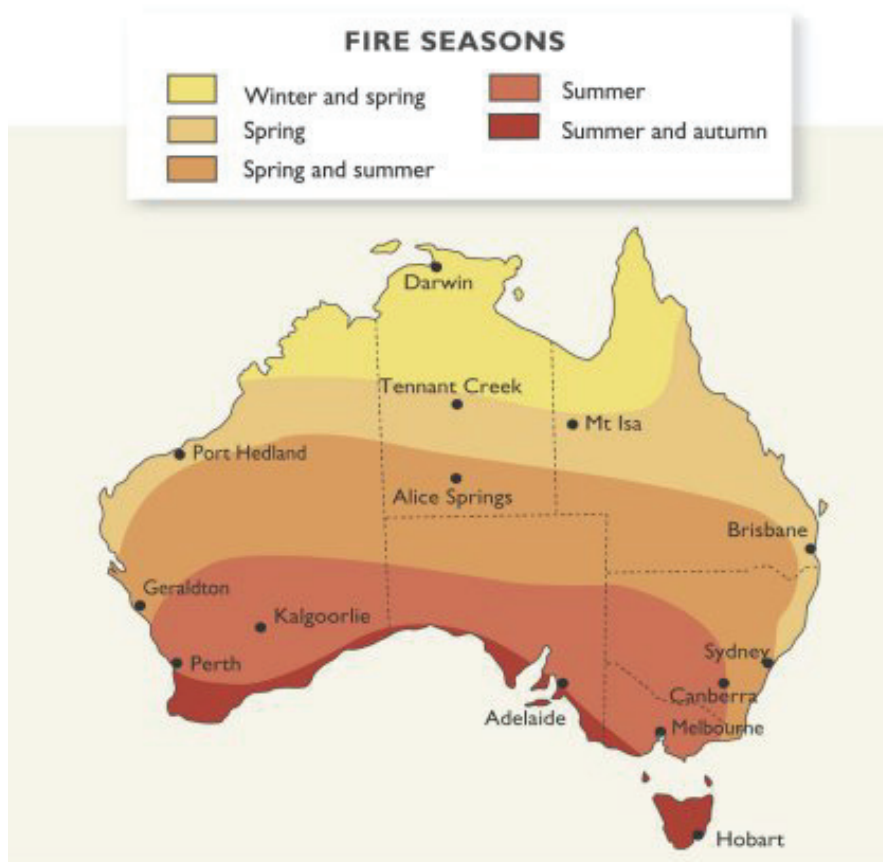
Knowledge management:

- Captures people’s know how
- Provides a platform for continuous and flexible exchange of knowledge
- Allows an organisation to understand know-how gaps
- Allows an organisation to actively manage growth of knowledge
- Provides benefits for individuals, groups, organisational units, and the entire industry

Knowledge management is not technology or an IT device and it is not information management.”

From: http://www.bushfirecrc.com/fkn/fkn/knowledge_manage01.html

For web users to instantly locate their geographic area of interest, The Dangerous weather portal designers will need to include clickable images like:



From:
<http://www.bom.gov.au/climate/seasonal/australia/fires.shtml>

The following material is downloaded directly from the web, with some repetitive and overly detailed material to demonstrate the scope of information available, if web users know where to look. I have opened this section with material from the peak USA Fire and Emergency Management Authority (FEMA), not because it is 'better', but to demonstrate that nearly all the information is generic, is universal. One well-linked, and heavily promoted, best information, layered from clear, core information (for example, NSW *Firewise* or the Mornington Peninsular site) to fine detail (SA site), with allowance for local specifics. Ultimately, this can allow links to web-based community mapping of such detail as safer exit routes, running and static water sources for fire trucks and detail for and from fire managers (McRae and Walker 2000). One Australian Dangerous *weather* site would suffice for the generic material and drill-down local access to real-time fire and fireweather information.

Sites reviewed for householder information:

USA http://www.fema.gov/hazard/wildfire/wf_prepare.shtm

Federal Emergency Management Agency (FEMA, USA) 2006

Australia

<http://www.bom.gov.au/weather-services/bushfire/about-bushfire-weather.shtml>

<http://www.ema.gov.au/agd/ema/emainternet.nsf/Page/RWP07C6046B98D07DB8CA256C5A00230553>

[http://www.abc.net.au/cgi-](http://www.abc.net.au/cgi-bin/common/printfriendly.pl?http://www.abc.net.au/southeast/sa/stories/s743332.htm)

[bin/common/printfriendly.pl?http://www.abc.net.au/southeast/sa/stories/s743332.htm](http://www.abc.net.au/southeast/sa/stories/s743332.htm)

<http://www.bushfireinfo.com/faq.html>

<http://www.firewise.net.au/develop.html>

An excellent Australia-wide Bushfire collation site:

<http://www.webace.com.au/~lowpress/NSW/New%20South%20Wales%20Fire%20Brigades%20UNofficial%20Australian%20Links.htm> , but put together in 1999 – many links now superseded. Good idea to update and make central from the fire drop-down of the proposed Dangerous weather portal.

www.abc.net.au/bushfire, strongly recommended for broad promotion.

Australian real-time fire weather – northern Australia: NAFI:

<http://www.firenorth.org.au/nafi/app/init.jsp>

Sentinel: <http://sentinel.ga.gov.au/acres/sentinel/index.shtml>

State and territory

Victoria

http://www.cfa.vic.gov.au/documents/wmo_casestudy_1.pdf

<http://www.dse.vic.gov.au/DSE/nrenfoe.nsf/LinkView/EC8AEF1C5E96789FCA2570FF00275A74F0DC4DF9CE4BC33ACA2570FF002DDB30>

NSW

http://www.rfs.nsw.gov.au/dsp_content.cfm?CAT_ID=515 NSW Rural Fire Service, with information in 27 languages.

ACT

http://www.esa.act.gov.au/Community_Ed/Bushfire_Information_Kit/index.html

http://www.esa.act.gov.au/Contact_Us/index.html

NT

<http://www.nt.gov.au/pfes/fire/community/bushfire/index.html>

- very simple information, but links to good booklet.

http://www.nt.gov.au/pfes/fire/community/bushfire/images/bushfire_booklet_lr.pdf

Tasmania

<http://www.fire.tas.gov.au>

Qld.

http://www.fire.qld.gov.au/communitysafety/bushfire/pdf/Bushfire_Prepared_Communities_contents.pdf

SA

<http://www.cfs.org.au/> SA Country fire service (perhaps the most comprehensive, plain English information).

WA

<http://www.fesa.wa.gov.au/>

Regional Australia

<http://www.mornpen.vic.gov.au/documents/se/ep/fire%20prevention/Plan%20Prepare%20and%20Survive.pdf>

http://www.mornpen.vic.gov.au/Documents/SE/EP/Fire%20Prevention/Fire_Wise_Fire_Management_CD_and_Internet_Information_28-11-06.pdf

http://www.yarraranges.vic.gov.au/page/PagePrint.asp?Page_Id=451

2.1 International web-based information for householders in fire-prone areas

Background information

USA (FEMA): Prepare for a Wildfire

- [Find Out What Your Fire Risk Is](#)
- [Create Safety Zones Around Your Home](#)
- [Protect Your Home](#)

Listed here are several suggestions that you can implement immediately. Others need to be considered at the time of construction or remodelling. You should also contact your local fire department, forestry office, emergency management office or building department for information about local fire laws, building codes and protection measures. Obtain local building codes and weed abatement ordinances for structures built near wooded areas.

Find Out What Your Fire Risk Is

Learn about the history of wildfire in your area. Be aware of recent weather. A long period without rain increases the risk of wildfire. Consider having a professional inspect your property and offer recommendations for reducing the wildfire risk. Determine your community's ability to respond to wildfire. Are roads leading to your property clearly marked? Are the roads wide enough to allow firefighting equipment to get through? Is your house number visible from the roadside?

Create Safety Zones Around Your Home

All vegetation is fuel for a wildfire, though some trees and shrubs are more flammable than others. To reduce the risk, you will need to modify or eliminate brush, trees and other vegetation near your home. The greater the distance is between your home and the vegetation, the greater the protection.

Create a [10 m]³ safety zone around the house.

Keep the volume of vegetation in this zone to a minimum. If you live on a hill, extend the zone on the downhill side. Fire spreads rapidly uphill. The steeper the slope, the more open space you will need to protect your home. Swimming pools and patios can be a safety zone and stone walls can act as heat shields and deflect flames. In this zone, you should also do the following:

- Remove vines from the walls of the house.

³ The USA use feet and inches in measurements. All measurements have been changed to metric. Some other small 'Australianising' is given [in squared brackets].

- Move shrubs and other landscaping away from the sides of the house.
- Prune branches and shrubs within 5 m of chimneys and stove pipes.
- Remove tree limbs within 5 m of the ground.
- Thin a 5 m space between tree crowns.
- Replace highly flammable vegetation such as pine, eucalyptus, [wattles and banksias] with lower growing, less flammable species. Check with your local fire department or garden store for suggestions.
- Replace vegetation that has living or dead branches from the ground-level up (these act as ladder fuels for the approaching fire).
- Cut the lawn often keeping the grass at a maximum of 50 mm. Watch grass and other vegetation near the driveway, a source of ignition from automobile exhaust systems.
- Clear the area of leaves, [shrubs, mulch], dead limbs and fallen trees.

Create a second zone at least 30 m around the house.

This zone should begin about 10 m from the house and extend to at least 30 m. In this zone, reduce or replace as much of the most flammable vegetation as possible. If you live on a hill, you may need to extend the zone for 100 m to provide the desired level of safety.

Clear all combustibles within 10 m of any structure.

- Install electrical lines underground, if possible
- Ask the power company to clear branches from power lines.
- Avoid using bark and wood chip mulch
- Stack firewood 30 m away and uphill from any structure.
- Store combustible or flammable materials in approved safety containers and keep them away from the house.
- Keep the gas grill and propane tank at least 5 m from any structure. Clear an area 5 m around the grill. Place a 6 mm mesh screen over the grill. Always use the grill cautiously but refrain from using it all during high risk times.

Protect Your Home

Remove debris from under sun decks and [veranda].

Any [veranda], balcony or overhang with exposed space underneath is fuel for an approaching fire. Overhangs ignite easily by flying embers and by the heat and fire that get trapped underneath. If vegetation is allowed to grow underneath or if the space is used for storage, the hazard is increased significantly. Clear leaves, trash and other combustible materials away from underneath sun decks and porches. Extend 12 mm mesh screen from all overhangs down to the ground. Enclose wooden stilts with non-combustible material such as concrete, brick, rock, stucco or metal. Use non-combustible [deck] furniture and covers. If you're planning a porch or sun deck, use non-combustible or fire-resistant materials. If possible, build the structure to the ground so that there is no space underneath.

Enclose eaves and overhangs.

Like porches and balconies, eaves trap the heat rising along the exterior siding. Enclose all eaves to reduce the hazard.

Cover house vents with wire mesh.

Any attic vent, soffit vent, louver or other opening can allow embers and flaming debris to enter a home and ignite it. Cover all openings with 1/4 inch or smaller corrosion-resistant wire mesh. If you're designing louvers, place them in the vertical wall rather than the soffit of the overhang.

Install spark arrestors in chimneys and stovepipes [section removed].**Use fire resistant siding.**

Use fire resistant materials in the siding of your home, such as stucco, metal, brick, cement shingles, concrete and rock. You can treat wood siding with UL-approved fire retardant chemicals, but the treatment and protection are not permanent.

Choose safety glass for windows and sliding glass doors.

Windows allow radiated heat to pass through and ignite combustible materials inside. The larger the pane of glass, the more vulnerable it is to fire. Dual- or triple-pane thermal glass, and fire resistant shutters or drapes, help reduce the wildfire risk. You can also install non-combustible awnings to shield windows and use shatter-resistant glazing such as tempered or wireglass.

Prepare for water storage; develop an external water supply such as a small pond, well or pool.**Other safety measures to consider at the time of construction or remodelling.**

- Choose locations wisely; [gully] and slope locations increase the risk of exposure to wildland fires.
- Use fire-resistant materials when building, renovating, or retrofitting structures.
- Avoid designs that include wooden decks and patios.
- Use non-combustible materials for the roof.
- The roof is especially vulnerable in a wildfire. Embers and flaming debris can travel great distances, land on your roof and start a new fire.
[removed] Clear gutters of leaves and debris.

From: http://www.fema.gov/hazard/wildfire/wf_prepare.shtm

Federal Emergency Management Agency (FEMA, USA)

2006

2.2 Australian web information on bushfire safety

Australian Weather Bureau for fire-prone householders.

As well as being the sole formal gatherer, processor and disseminator of Australian weather information, the Bureau provides much safety weather information. The Bureau informs web users about bushfires and personal safety:

PROTECTING YOURSELF AND YOUR HOME

The big killer in a bushfire is heat radiating from a fire onto bare skin. You need to cover all bare skin with long-sleeved shirts, long trousers, jeans or overalls, sturdy shoes and wool or cotton socks. If you are outside don't forget to wear a wide-brimmed or hard hat, goggles or glasses, and gloves.

Other causes of death are inhalation of super-hot air and flames, dehydration in the hot, dry conditions and being hit by falling trees and branches.

Although radiant heat is fierce, it is easily blocked by a solid barrier such as building walls. If you are caught in a bushfire, the safest place is inside a building away from the radiant heat, hot air and flames.

Peak values of radiant heat from even the worst bushfire rarely lasts more than ten minutes. If you can shelter for this time you have a good chance of survival.

Houses have never been known to burn down in the first ten minutes when the fire front is moving past. They are usually ignited by blowing embers, radiant heat and the burning of adjacent structures like wood heaps, trellises and timber decking, and they can take hours to burn down. If you shelter inside while the fire front goes past and then put out the small spot fires inside and around the outside of your house there is an excellent chance that you and your home will survive.

The dry and hot air around bushfires can cause dehydration. Remember to have a drink of water as often as you can, preferably every ten minutes. Do not drink alcohol - it will dehydrate you even more.

On fire danger days, use the radio to keep up with the latest information on the weather and fire situation. If you plan to stay in your house make sure you are well prepared. If you plan to leave, then leave early. Getting trapped by a fire when you are out in the open is very dangerous. Keep a woollen blanket in the car and get under it if you are trapped in a fire. Remember that car petrol tanks don't usually explode in a bushfire. You are much safer in your car than out in the open and you are much safer in a building than in a car.

From:

http://www.bom.gov.au/inside/services_policy/fire_ag/bushfire/protect.htm

From Emergency Management Australia's *Ausdin*

BUSHFIRE ACTION GUIDE

In bushfires, radiant heat, dehydration and asphyxiation are the main killers. Well-prepared houses resist brief exposure to fire, protecting occupants who can then save their homes.

BEFORE THE BUSHFIRE SEASON - Prevent/Prepare

- Remove rubbish, leaf litter and native shrubs close to buildings.
- Form a **wide** firebreak around your home, eg short, green grass (use mower, spade, rake), trim branches well clear of the house. Clear roof and gutters of leaves, twigs etc..
- Fit wire screens to doors, windows and vents, and enclose all gaps, roof eaves and the area under your house.
- Store wood, gas, petrol, paint etc well clear of the house.
- Keep ladders handy for roof access (inside and out). Fit hoses to reach all parts of the house and garden. If mains pressure water is not connected, obtain a high pressure pump.
- Check you have adequate insurance cover for bushfire.
- Agree on a household plan to leave early or stay to protect your home during a bushfire. If leaving, plan when, where, how you will go and what to take.

IF A BUSHFIRE APPROACHES - Leave or Protect

Prepare as above, unless you have decided to leave early or are ordered to do so. Stay in the house after taking these precautions:

- Phone 000 - don't assume the fire service knows.
- Turn off gas. Put door mats inside. Close vents, windows, doors, and block gaps from the inside with wet towels.
- Fill baths, sinks, buckets and bins with reserve water.
- Plug downpipes with rags and fill gutters with water.
- Remove curtains, cross-tape windows and move furniture clear.
- Wear long, woollen or heavy cotton clothing, solid boots or shoes, a hat or woollen balaclava, and gloves.
- Hose down all walls, garden etc on sides facing the fire and watch for spot fires from flying sparks or embers.
- As the main fire-front arrives, go inside with hoses, away from windows, while it passes (usually 5 to 15 minutes).
- Quickly extinguish any fires which may have started in, near, or under the house or roof. Check inside roof too.
- If the house is alight and can't be extinguished, move to burnt ground. Don't go - wait for help. Listen to battery radio for updates.

IF CAUGHT IN A FIRE, DRIVING - Shelter in Car

- Don't drive into or near bushfires. If caught in a bushfire don't drive through flames or thick smoke
- Stop in an area of low vegetation. Leave motor running and airconditioner (recycle), hazard lights and headlights on.
- Stay inside unless near safe shelter. Keep vents, windows and doors closed. Lie inside, below window level, under a woollen blanket for skin protection.
- After the main fire-front passes, if car is on fire or heat and fumes inside are severe, get out and move to already burnt ground, keeping your whole body covered with the blanket.
- The fuel tank is unlikely to explode in the period you need to stay in the car while being shielded from the deadly radiant heat of the main fire-front.

IF CAUGHT IN FIRE, ON FOOT - Seek Shelter

- Don't panic - cover all exposed skin and hair.
- Move across-slope, away from the fire-front, then down-slope towards the rear of the main fire-front.
- Find open or already-burnt ground. Don't try to outrun fire, or go uphill, or through even low flames, unless you can clearly see a safe area very close by.
- If you can't avoid the fire, lie face-down under a bank, rock, loose earth or in a hollow, or if possible get into a dam or stream, but not a water tank.

EMERGENCY SURVIVAL REQUIREMENTS

If faced with the dangers of body dehydration, smoke inhalation and radiant heat from flames, emergency protection is possible, even in high-intensity fires. Wrap yourself in a heavy, pure wool blanket and carry water to drink; use moistened blanket corner as a smoke mask.

From:

<http://www.ema.gov.au/agd/ema/emainternet.nsf/Page/RWP07C6046B98D07DB8CA256C5A00230553>



[ABC Online](#)

Bushfire links : ABC South East SA

Some of these links may be to sites outside the ABC and as such the ABC has no editorial control over such sites.

[Bush fire checklist](#)

<http://www.bushfire.nsw.gov.au/communityfiresafety/bushfirechecklist.htm>

[NSW Rural Fire Service](#)

<http://www.bushfire.nsw.gov.au/>

[Victorian Rural Fire Brigades' Association Inc.](#)

<http://home.vicnet.net.au/~vrfba/>

[South Australian Country Fire Service](#)

<http://www.cfs.org.au/splash.shtml>

[Tasmania fire service](#)

<http://www.fire.tas.gov.au/>

[Northern Territory Fire and Rescue Service](#)

<http://www.nt.gov.au/pfes/fire/>

[Fire and emergency service of Western Australia](#)

<http://www.fire.wa.gov.au/>

[Rural Fire Service Queensland](#)

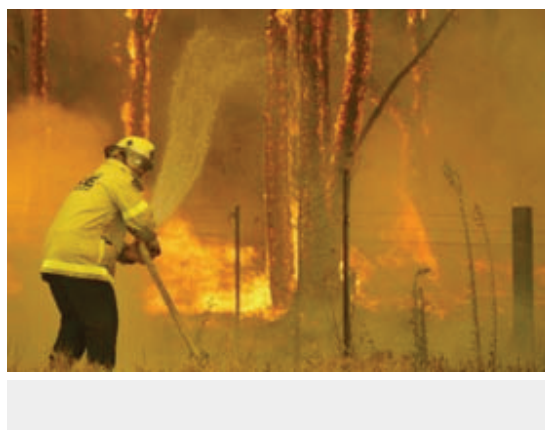
<http://www.ruralfire.qld.gov.au/>

[Bureau of Meteorology](#)

<http://www.bom.gov.au/>

[Australasian Fire Authorities Council](#)

<http://www.ausfire.com/>



Fire Equipment Maintenance

<http://www.fem.webcentral.com.au/>

CFA shop

<http://www.cfashop.com.au/ecindex.htm>

Emergency Management Australia

<http://www.ema.gov.au/>

CSIRO fire research

<http://www.dar.dwe.csiro.au/ecofire.asp>

Rural Fire Service Australia: Rural Fire Links

<http://www.rfsa.org.au/links.html>

From: <http://www.abc.net.au/cgi-bin/common/printfriendly.pl?http://www.abc.net.au/southeastsa/stories/s743332.htm>

The ABC is to be commended for having easy-to-see national web links to all the main jurisdictional bushfire fighting organisations. As the official 'big weather' radio broadcaster, this seems enlightened and appropriate multi-media communication, leading in safety-oriented risk communication.

Unfortunately *ausfire*, listed in the ABC information page (and by the ACT Emergency Services Agency), leads to a seemingly private business selling safety equipment.

In November 2006, a new ABC bushfire web site was launched, with the BF CRC: www.abc.net.au/bushfire. This site shows, interactively, a householder decision support process of decisions and actions taken to maximise safety, and the consequences of making poor decisions. It is strongly recommended, and will fit in well with the self-help philosophies and hazard awareness is the Dangerous weather portal is developed. The site shows the clear benefit of linking the accredited radio risk communicator with world experts in risk communication theory and research. The medium and the message. With the web, this powerful combination is available to many households in fire-prone areas. Used by local media and community networks, the outcomes should be a clear increase in preparedness.

Site: **Bushfireinfo**

There is a not-for-profit group, *bushfireinfo*, which offers apparently good National information, with some good graphics. From the bushfireinfo site, I just offer the section on the issue of STAY OR GO, to show and commend the depth of this site. The rest of the site is as thoughtful. Adjusting to the 'funky' style of writing will help readers appreciate this 'personalised' communication style.



- **Evacuation considerations**
- **Preparing evacuation plan**
- **Building a survival kit**
- **Preparing for evacuation**
- **Making the decision: to stay or to go**



Link to us!
Get your funky banner now

TO EVACUATE OR STAY,
MAKING THE DECISION

Oh boy, this is gonna be a big one. The necessity of evacuation is the single most contentious issue of bushfire safety, and something of a political hot potato. I will try to explore the different sides of the decision to give you a fair view of the possibilities. We cannot tell you whether to stay or to go, but you MUST know the different aspects affecting the decision in order to make up your own mind.

Australia has no standard legislation concerning forced evacuation, and the state specific laws are difficult to interpret, often contradictory and change regularly. Depending where you live, it MAY be within the law to force you to leave your property if the authorities so decide. Contact your local Department of Emergency Services to find out what the specific situation in your state is.

You will notice that we, too, recommend that you do as your local authorities request. They DO have a lot more information available to them about the situation than you, but no man is infallible. **Mass evacuation orders may come too late, they may direct you to a wrong area and generally NOT be in your best interest. But then again, they may be.** The most important issue is to **remember to evacuate EARLY ENOUGH, or not at all.** Evacuation, especially a mass evacuation, that happens too late is far more dangerous than staying with your property.

Here are a few eye-witness accounts from mass evacuations in the past. They will clearly reveal that you don't simply hop into your car and leisurely drive off to the sunset. The quotes are from **Joan Webster's excellent book "The complete bushfire safety book"** (Random House Australia, ISBN 1 75051 034 8). I STRONGLY recommend that you buy the book and read it - the information is invaluable and it is very well written.

"Cars streamed along the smoke-filled road - old bombs and Bentleys - all piled high with possessions, each one crammed with pets and so many people you wouldn't know where they'd come from. It needed only one car to stall and the lot would have been stuck. And to cap it all, above the honking and yelling and crying kids, was a parrot strapped in his cage on top of a car and screeching: 'How do you like it now? How do you like that? How do you like that? How do you like it now, mate? How do you like it now?'"

Webster describes the exodus from Warrandyte and Wonga Park in Victoria on 17 January 1962. The road that was the assigned evacuation route was a narrow, twisting road. A lot has been learned since 1962, but unfortunately not much has been applied. Webster writes *"Thirty years on, in the hottest weather since 1911...25,000 people were ordered from their homes onto roads closed by fire and police. In the smoke and embers, 7,000 Gosford and Woy Woy evacuees sweltered and slept in their cars, on footpaths, in the open, under makeshift 'car-tents'. Their 'escape route', the major Pacific-seaboard freeway (F3), remained cut by fire for three days...This was during the December 1993-January 1994 fires."*

...and the examples go on and on. In the best bureaucratic fashion, other past mistakes include forced evacuation AFTER the fire, directing evacuees to the path of the fire (instead from away of it), causing complete stop of traffic by poor choice of evacuation routes or destinations, forced evacuation by the police against the advice of the fire authorities (which, of course, led to police blaming

the firies and the firies blaming the police), etc., etc. It would be funny, if it was not so serious!

All in all, all too often the official evacuation efforts take place too late, and place people at hazard. People may be advised to evacuate, or may be forcefully removed from their homes at hazard - not with prudence and precaution. While the awareness of correct behaviour during bushfires is slowly increasing, it is far from exemplary.

The problem with evacuation and bushfires is that it is a paradox: **the only guaranteed, and the only RIGHT time to evacuate is to go when the fire is so mild that there is little or no danger.** This means that any evacuation should be carried out when you know there to be bushfires in nearby areas, and there is any possibility of them spreading to your area.

The other important issue to consider is that according to statistics, your house is more likely to burn down if you are not there to defend it. As stated before, most houses burn down long after the bushfire has passed. If you are able bodied and possess the right set of mind, staying back to defend your home may well be worthwhile (see "how homes burn down" section for more information). An additional option is to evacuate only part of the family (children, women, elderly or disabled) WELL in advance of the threat, leaving only the able bodied to defend the property. Remember that a correctly prepared home is generally an effective refuge!

When assessing the viability of evacuation, consider these issues:

- Is the evacuation going to lead to a safe shelter, or is it a panicked reaction
- Your personal set of mind: fear or fighting
- Your personal capabilities: are you fit or frail
- The refuge value of the premises you are in: is where you are already a good shelter with appropriate preparation done
- The refuge value of proposed evacuation destination: building or open space, distance to destination
- Insurance on your property: if it burns down when abandoned, how will you manage
- Pets and livestock: how will they fare if abandoned, can they be evacuated or managed to a safer location

Carefully consider if you have time to:

- Seal the house
- Put on protective clothing (but you already have your survival pack, right?)
- Place livestock and pets in a safe refuge
- Stow or bury precious possessions safely
- Avoid hold-ups, breakdowns and traffic-jams on the way
- Return safely to the house to defend it if partial family evacuation is planned
- Return safely soon after the fire to douse spot fires

Consider if you know:

- Whether the route is, or could be, blocked by fire, smoke or fallen trees
- Whether or not you would be trapped in a traffic jam
- Whether you would be safe if your car is trapped
- The rate of spread of the fire
- The spotting capacity of the fire
- Whether your destination (or route to it) is also endangered
- The direction of prevailing winds

When making the decision, remember this:

- A fire within sight or smell is a fire which endangers you
- More unattended houses burn down than attended houses
- Evacuation when fire is close is too late; it must be done well before danger is apparent
- More people are injured and killed in the open than in houses
- Learn ahead whether the community refuge and the route to it is safe
- If not confident of that, pre-plan a suitable alternative destination and route, e.g. neighbour's house or other building in town
- Be prepared for delays in travel and traffic-jams
- Note wind direction and speed
- Note road conditions
- Never drive through (thick) smoke
- Never "run for your life", you are more likely to run to your death
- Prepare an alternative evacuation plan and a 'stay' plan
- Be flexible: you may need to change your plan at the last minute depending on the conditions
- When in doubt, don't go!

From <http://www.bushfireinfo.com/faq.html>

Bushfireinfo.com is now a FireWise partner!

FIREWISE The New South Wales Rural Fire Service has recognised the efforts of Bushfireinfo.com by nominating us as a FireWise partner.

The FireWise NSW project brings together all government and non-government agencies who have a role to play in the prevention or management of fires of all types throughout NSW.

From a coalition of Australian fire services
Under the heading of fire safety information, the fire service has links to:

Fire Safety Information & Fact Sheets

- [NSW Rural Fire Service](#)
- [NSW Fire Brigades](#)
- [A.C.T. Emergency Services Authority](#)
- [QLD Fire and Rescue Service](#)
- [VIC Country Fire Authority](#)
- [SA Country Fire Service](#)
- [WA Fire & Emergency Services](#)
- [NT Fire and Rescue Service](#)
- [TAS Fire Service](#)

Some of these links no longer work.

From: <http://www.firewise.net.au/develop.html>

2.3 State and Territory web-based information for householders

2.3.1 Victoria - Country Fire Authority

Victoria has days of extreme fire danger every summer...

If you live in a high bushfire risk area, you can expect several days on which you, your family and your house may be threatened by fire. You need to know exactly what you will do on these days. You need a really practical bushfire survival plan.

Attend a community meeting

Each summer CFA takes it to the streets to hold community meetings in local halls and on street corners. [Find a meeting near you](#)

Develop a bushfire survival plan

Developing a [bushfire survival plan](#) is an important job that should take you more than just a few minutes. And it's best to make the plan before the start of the summer bushfire season.

The [Living in the Bush bushfire survival plan workbook](#) can assist you to develop a plan.

Are you ready for the bushfire season?

- [Are you at risk?](#) Remember you can still be at risk in an Urban Fringe or Semi-Rural Area.
- [Will you stay and actively defend your property, or leave early](#) before a fire threatens and road travel becomes hazardous?
- [Will you be able to protect your property](#) if there is a bushfire in your area?
During a bushfire there will not be a fire truck available to protect every property. If you want to stay and defend your property you will need to do some preparation well in advance and develop your own bushfire plan
- Will you be able to [protect yourself](#) if there is a bushfire in your area?
To defend your home may take many hours of strenuous activity. Are you physically and emotionally able to defend your home? If you intend to stay and defend your property, you will need to have the right gear and to be prepared
- How will you know there is a fire in your area?
It is likely that the first sign of fire in your area will be smoke - or even flames – near your property. You may not get an official warning, so you need to be alert and prepared on days of high fire risk

Bushfires are survivable

The key to surviving a bushfire is to be self-reliant and well prepared by having a plan that suits the needs of your household.

Vegetation management alone is not enough.

A good bushfire survival plan includes house preparation, personal preparation, *and* what you will do in the event of a bushfire.

For information on developing your own Bushfire Survival Plan see CFA's Living in the Bush (2004). www.cfa.vic.gov.au

Left: Woodland where selective shrub removal will occur

From http://www.cfa.vic.gov.au/documents/wmo_casestudy_1.pdf

An exciting development is the community fireguard projects, initiated by neighbours in fire prone areas:

[Group Activities](#) | [How to Start a Group](#) | [Case Studies](#)

Community Fireguard is a bushfire safety program designed to reduce the loss of lives and homes in bushfires. Community Fireguard helps residents to plan for the threat of a bushfire and to manage their own fire risk.

CFA cannot provide every person and home with individual protection during a major bushfire and recognises that many people may have to face a fire without the support of CFA. Bushfires are survivable if people take responsibility for their fire safety and prepare themselves for the event of a bushfire in their area.

Community Fireguard assists community groups to develop bushfire survival strategies that suit their lifestyle, environment and values.



The program

Community Fireguard encourages residents to work together to improve bushfire safety.

The following aspects are addressed as part of the core Community Fireguard program.

-

- to the program
- Fire
- behaviour
- Personal
- survival
- House
- survival
- Street walk
- Fire
- protection equipment
- Developing
- personal and household bushfire survival plans.

Most groups will cover these aspects in four to five meetings over a twelve month period. However, groups vary in experience and understanding so the number of meetings needed to cover the core information will vary to meet the needs of the group.

Brochure



[CFA's Community Fireguard program brochure](#) (pdf 242k)


From: <http://www.cfa.vic.gov.au/residents/programs/cfg.htm>

From: Department of Sustainability and Environment, Victoria

- [Are you at risk?](#) Remember you can still be at risk in an Urban Fringe or Semi-Rural Area.
- [Will you stay and actively defend your property, or leave early](#) before a fire threatens and road travel becomes hazardous?
- [Will you be able to protect your property](#) if there is a bushfire in your area?
During a bushfire there will not be a fire truck available to protect every property. If you want to stay and defend your property you will need to do some preparation well in advance and develop your own bushfire plan
- Will you be able to [protect yourself](#) if there is a bushfire in your area?
To defend your home may take many hours of strenuous activity. Are you physically and emotionally able to defend your home? If you intend to stay and defend your property, you will need to have the right gear and to be prepared
- How will you know there is a fire in your area?
It is likely that the first sign of fire in your area will be smoke - or even flames – near your property. You may not get an official warning, so you need to be alert and prepared on days of high fire risk

[Are you at risk?](#)
[Leave or stay?](#)
[Protect your property](#)
[Protect yourself](#)
[Make a bushfire plan](#)
[In the event of a fire](#)
[Essential equipment](#)
[Workbook](#) (PDF - 2.1 Mb)
[Campfires & barbecues](#)
[Don't get caught in a bushfire](#)

[Good material, but a repeat of CFA information on community meetings and developing a bushfire survival plan, has been removed from here]

The  [Living in the Bush bushfire survival plan workbook](#) (PDF - 2.1 Mb) can assist you to develop a plan.

[Department of Sustainability and Environment](#), Victoria, Australia

From:

<http://www.dse.vic.gov.au/DSE/nrenfoe.nsf/LinkView/EC8AEF1C5E96789FCA2570FF00275A74F0DC4DF9CE4BC33ACA2570FF002DDB30>

2.3.2 State and Territory web-based information for householders - NSW

- NSW RURAL FIRE SERVICE
- NSW FIRE BRIGADES
- ACT RURAL FIRE SERVICE
- ACT FIRE BRIGADE



HOME BUSHFIRE PREPARATION

Fact Sheet 2 – Community Risk Management. Revised 19/08/2004

PLAN TO PROTECT YOUR HOME: Preparing your Home for the Bushfire Season

If you follow these simple guidelines you can reduce the threat of embers and bushfire affecting your home:

- Clean leaves from gutters, roofs and downpipes regularly and fit quality metal leaf guards.
- Screen vents on roof voids with fine metal wire mesh.
- When installing LPG cylinders around your home, make sure that pressure relief valves face outwards so that flame is not directed towards the house.
- Keep woodpiles well away from the house and covered.
- Cut back overhanging trees, keep grass short and rake up flammable leaves, twigs and cuttings.
- Do not deposit tree loppings, grass clippings etc behind your property into council reserves or bushland.
- Ensure your garden hoses are long enough to reach the perimeter boundary.
- Plant trees and shrubs that are less likely to ignite due to their lower oil content.
- If you have a swimming pool, have a Static Water Supply sign placed on your front fence. Contact your local fire service for information.
- Consider purchasing a portable pump to use from your swimming pool or water tank.
- If there is a Community Fire Unit or Firewise group nearby, become a member.
- Make sure that any fire hydrants near your home are easily located and not obstructed.

In the event of bushfire threatening your home:

- Don't enter the bush if smoke or fire is in the area. Stay calm and report all fires on 000!
- Check if elderly neighbours need assistance.
- If possible, block your gutters and fill with water.
- If you choose to self-evacuate, do so early.
- If ordered to evacuate by the police you must obey, so have pets and valuables packed and ready to go.
- Wear long sleeves and long pants, natural fibres and sturdy footwear.
- Close all windows and doors, block spaces beneath doors with towels or blankets.
- If the fire is approaching your house, bring your garden hose and fittings inside so they won't melt in the fire, as you may need them later.
- To help put out spot fires once the fire has passed, keep hoses, ladders, shovels and metal buckets at hand.
- Keep a torch and portable radio in the home in case the electricity supply fails.

FOR MORE INFORMATION CONTACT YOUR LOCAL FIRE STATION OR FIRE CONTROL CENTRE

or visit: www.rfs.nsw.gov.au www.fire.nsw.gov.au or www.esa.act.gov.au

**REMEMBER
BE PREPARED
BE AWARE
STAY CALM**

IN AN EMERGENCY CALL 000

- NSW RURAL FIRE SERVICE • NSW FIRE BRIGADES
- ACT RURAL FIRE SERVICE • ACT FIRE BRIGADE



BUSHFIRE EVACUATION / RELOCATION

Fact Sheet 3 – Community Risk Management. Revised 19/08/2004.

FACT: During bushfires, lives are most often lost when people make a last minute decision to flee their homes on foot or in a vehicle.

During bushfires should I Stay or Go?

FACTS:

1. Late evacuation exposes people to the dangers of smoke, radiant heat and falling debris and can lead to blocked roads further endangering evacuees and impeding access for emergency vehicles.
2. **NSW Police have authority to direct people to evacuate and will do so on the advice of fire authorities.** However, in times of extreme emergency you should not rely on Police or Firefighters to advise you what to do. It is therefore most important to have ready an **Evacuation/Relocation Plan** suited to the needs of your family or residents and your property.
3. **Research indicates that a well prepared home is often the safest place to shelter from a fire front.** Refer to Fact Sheet #2
4. **Research also indicates that well protected and prepared able-bodied people who stay to protect their homes from ember attack and spot fires are often successful.** Protection includes covering exposed skin with long tops and pants of natural fibres, solid shoes, hats, goggles and face masks.

Whether you choose to stay or go, it is very important that you make your decision EARLY.

If GOING, consider these points:

- **WHO in the household should go?**
(We recommend that the elderly, young children and the infirm)
- **WHEN should they go?**
(Early in the day and well ahead of fire entering the area)
- **WHERE should they go?**
(Arrange a meeting place a safe distance from the fire – it might be with a friend, relative, or at an official refuge)
- **WHAT should they take?**
(Have documents, valuables, medications and pets packed and ready to go)

If STAYING with your home consider these points:

- Turn off gas and power
- Block downpipes and fill gutters with water
- Hose down external walls, gardens etc before the fire arrives
- Bring hoses/fittings and other fire suppression tools inside, so they can be used later
- Fill all sinks, baths etc with water to use on spot fires in case mains water supply or domestic electric water pumps fail.
- Close all doors and windows and block gaps with damp towels
- Move flammable curtains and furniture away from windows
- Shelter in a part of the house most distant from approaching fire front until fire has passed then actively put out spot fires
- Keep a torch and portable AM/FM radio at hand to monitor weather in case power fails
- Wear long sleeves and long pants made from natural fibres and sturdy footwear
- Have eye and breathing protection available for everyone.
- Once fire front has passed, go outside to check for spot fires and ember attack

FOR MORE INFORMATION CONTACT YOUR LOCAL FIRE STATION OR FIRE CONTROL CENTRE
or visit: www.rfs.nsw.gov.au www.fire.nsw.gov.au or www.esa.act.gov.au

BUSHFIRE EVACUATION/RELOCATION SAFETY TIPS

- Stay and defend your home if you are well PREPARED or, LEAVE THE AREA EARLY in the day and well ahead of advancing fire front
- Have an EVACUATION PLAN ready - Make sure everyone in the household is familiar with the plan and what is expected from them
- Have a portable AM/FM radio with spare batteries handy and listen to weather forecasts
- Know where you, your partner and children will be on extreme fire danger days
- Have relevant phone numbers handy (school, work, friends, emergency services, RTA Info)

IN AN EMERGENCY CALL 000

- NSW RURAL FIRE SERVICE
- NSW FIRE BRIGADES
- ACT RURAL FIRE SERVICE
- ACT FIRE BRIGADE



HOME BUSHFIRE SHELTER

Fact Sheet 5 – Community Risk Management. Revised 19/08/2004.

FACTS: Statistics show that if residents stay with **well prepared homes** during a bushfire, their property has a greater chance of survival. This is because burning embers set most homes on fire. If residents are on hand to defend their house from ember attack, then small fires will not be able to take hold and destroy the house.

For people who stay, the home can provide a safe haven from radiant heat and flames during the passing of the main fire front. This is always safer than evacuating at the last minute and being caught out in the open.

However, sheltering **safely** in the home depends upon:

- **The house being well prepared**
- **Residents being mentally and physically able to cope with the smoky, stressful conditions**
- **The house being located in a defensible position**

If unsure about any of these factors, EVACUATE EARLY, well before the fire arrives.

What is 'properly prepared'?

House: To guard against embers gaining entry to your home, take the following measures:

Clear gutters, firmly fix roofing, close in eaves, install metal fly screens, enclose underfloor areas, screen all external air vents, remove combustible materials from around the house, cut back overhanging trees and vegetation, face relief vents on LPG cylinders away from the house.

To extinguish spot fires you will need hoses long enough to reach all sides of the house, a ladder, buckets, shovels and mops. Water pressure is likely to fail, so consider buying a portable pump using water from swimming pools and dams.

People: People staying to defend their homes also need to be properly prepared. This means protective clothing such as long sleeved shirts and pants of natural fibres; sturdy shoes, goggles, gloves, a hat and face mask. Be prepared for the stress and confusion generated by the fire. It will be smoky, noisy and hot. You need to be fit, well and able to stay calm under pressure.

Are some houses safer than others?

While difficult to generalise, there are some factors of location or design that pose greater risk, including:

- houses with a north/westerly aspect to bushland, (in NSW hot winds from the inland spread fire)
- houses upslope from bushland (fire travels more quickly uphill; if a fire crowns in the treetops, the flames are more likely to spread to the house)
- a complex roofline; (makes it difficult to get water to all areas of the roof guttering and provides areas for embers to lodge)
- wooden decks, open spaces beneath house, brush/wood fences, mulch, lines of foliage, (these act as a 'wick' transferring radiant heat or flames to the house)

Where in the house is the best place to take refuge?

When the fire front arrives, take refuge from its radiant heat and flames inside, for 10-15 minutes until it passes.

Choose a place/room that:

- Is located away from the direction the fire is approaching from
- Has a window or vent so you can see what is happening outside
- Has at least 2 exits eg: a window and a door,

Bring firefighting equipment inside for protection and so it can be used to put out spot fires cause by ember attack.

Have a fire extinguisher or water supply to douse fires in such areas as the roof cavity.

PERIODICALLY CHECK FOR SPOT FIRES INSIDE THE HOUSE

Always have a 'Plan B'. For example, is there a neighbour's house that you consider safe for shelter?

FOR MORE INFORMATION CONTACT YOUR LOCAL FIRE STATION OR FIRE CONTROL CENTRE

or visit: www.rfs.nsw.gov.au www.fire.nsw.gov.au or www.esa.act.gov.au

BUSHFIRE SAFETY TIPS

- **Stay and defend your home if you are well PREPARED or, LEAVE THE AREA EARLY in the day and well ahead of advancing fire front.**
- **Have an EVACUATION/RELOCATION PLAN ready - Make sure everyone in the household has practiced the plan and know s what is expected of them.**
- **Know where all household members will be on extreme fire danger days.**
- **Have a portable AM/FM radio with spare batteries handy and listen to weather forecasts**
- **Have relevant phone numbers handy (school, work, friends, emergency services, RTA Info)**

REMEMBER A LATE DECISION TO GO COULD BE DEADLY!

IN AN EMERGENCY CALL 000

From: http://www.rfs.nsw.gov.au/dsp_content.cfm?CAT_ID=515 NSW Rural Fire Service

2.3.3 ACT. State and Territory web-based information for householders - ACT Emergency Services Agency

HOUSEHOLD BUSHFIRE EMERGENCY PLAN

Every home is different. That's why every household needs to develop their own *Household Bushfire Emergency Plan* (see pages 18 & 19).

Here are some issues that you should consider:

There is a space provided on page 19 (inside the back cover) to write your plan:

- decide whether you should stay or go. Consider the safety of children, the elderly, those with disabilities, and your pets. If you are a person with a disability, frail-aged, or have special needs, talk to your family, neighbours or carers about how they can help you with your plan, or call Canberra Connect 13 22 81 for advice;
- if you have special needs, consider these when writing your plan. Involve relatives, friends and others in your plan and response;
- help relatives, neighbours and friends with special needs to prepare their plans;
- decide on a 'safe' meeting place and how you will find each other if separated;
- decide whether you will move your pets and other animals to a safer place;
- consider what important documents and personal effects you want to protect, and where you will store them to find them quickly;
- consider how well-prepared you are for an emergency and what you need to do to better prepare your home;
- understand the impact a power failure would have on your plans, e.g. cordless phones, or automatic garage doors that may not work;
- be aware that communications may be difficult during an emergency e.g. your mobile phone may not work; and
- check you have adequate home contents and building insurance.

Your decision to stay or go should be discussed and decided with other members of your household well in advance of any bushfire threat.

CHECK LIST



- Yes or No Do you understand the local bushfire risk and how to prepare your house for this risk?
- Yes or No Have you removed things that can burn from around your home?
- Yes or No Do you have basic firefighting equipment (hoses, metal buckets, protective clothing etc.)?
- Yes or No Do you have access to an alternative water source (filled bath, wheely bin, pool, pond, etc.)?
- Yes or No Are you physically fit and mentally prepared to cope with the stress of firefighting?
- Yes or No Do you have plans to assist members of your household, pets or livestock who need assistance in the event of a fire?

If your answer to all these questions is yes, then you can have greater confidence in your decision to stay with your home.

If some of your answers are no, you may plan to go:

- consider any special needs, such as transport, essential medications, small children's needs and other support you may need;
- plan what you would take in a small case containing essential personal documents, photos and other prized possessions;
- prepare your pets and protect your home (see pages 12 & 13);
- plan an evacuation route - consult a local map and decide on at least two alternative routes you could take if you have to evacuate quickly - listen to the local radio stations to check road closures in case of an emergency; and
- **if you plan to go - GO EARLY.**

And, from the ACT, clearly the best graphic of what you need if you chose to stay
http://www.esa.act.gov.au/Community_Ed/Bushfire_Information_Kit/bushfirebooklet_pt2.pdf



And the only reference I saw in the Bushfire web information on SEWS:

WHAT TO DO IF YOU HEAR THE STANDARD EMERGENCY WARNING SIGNAL (SEWS)

The SEWS signal sounds like a wailing siren and will be broadcast on local radio and television stations. It will draw your attention to an urgent safety message. Following the signal there will be an important message:

- pay immediate attention;
- listen to the announcement; and
- follow any instructions given.

If your area has been identified as being under threat activate your household bushfire plan if you have not already done so. If you have decided to evacuate leave now.

THINGS TO DO WHEN THE FIRE FRONT APPROACHES

- disconnect external hoses and take them inside while the fire front passes (usually 5 to 15 minutes);
- retreat inside away from radiant heat, smoke and flames;
- continually patrol the interior of your house to check for fires;
- drink water to ensure you don't dehydrate;
- stay away from windows – windows are a weak point in your home's defence against the fire;
- protect yourself from smoke - minimise smoke getting into the home. If there is smoke in the house, protect yourself by covering your face with a mask or damp natural fibre cloth;
- if you need to go outside, protect yourself with a damp woollen blanket;
- don't climb onto the roof if you can avoid it. Your roof can be hosed down or checked by standing on an appropriate portable ladder, which must be firmly secured. Roofs in older buildings may also be worn and brittle and unable to support the weight of a person (water on roofs before and during the fire is not useful despite popular belief); and
- restrict use of phones to essential calls only.

The ACT perhaps has the clearest, plain English check list. Note preparations are identical until the decision to stay or go:

BUSHFIRE CHECKLIST

BEFORE THE BUSHFIRE SEASON Prepare Your Household

- Write a household emergency bushfire plan
- Help relatives and neighbours with special needs to plan
- Advise family and friends of plans
- Get together an emergency kit
- Write down emergency contact details
- Prepare your property

On Days of High Fire Risk

- Refer to your Bushfire Information Booklet
- Be aware of the conditions, including fire bans and alerts
- Prepare firefighting equipment and clothing
- Prepare your pets
- Prepare an alternative water supply

DURING As the Fire Approaches

- Listen to your local radio for information and Standard Emergency Warning Signals
- If you have decided to evacuate, prepare your home and leave early
- Close vents, windows and doors
- Remove curtains
- Block gaps from the inside with wet towels or draft stoppers
- Turn off the gas supply
- Move furniture clear of windows
- Block gutters with rags or old tennis balls and fill with water
- Hose down external walls, garden, wooden fences and decks

When the Bushfire Arrives

- Retreat inside from radiant heat, and move hoses inside
- Inspect the house regularly for spot fires
- Drink water

AFTER After the Fire Front has Passed

- Patrol for fire outbreaks inside and outside
- Check inside the roof
- Extinguish any fires in or around the house
- Implement any required first aid
- Listen to your radio for emergency updates
- Contact family and friends



Finally, the ACT offers interpreters in 13 languages. It would fit this wider research to draw on the best web information, get consensus on the generic

material (nearly all of the information is applicable to all areas and all hazards), then translate into the many language of recently arrived NESH.

ENGLISH	If you need interpreting help, telephone:
ARABIC	: إذا احتجت لمساعدة في الترجمة الشفوية ، إتصل برقم الهاتف :
CHINESE	如果你需要传译员的帮助，请打电话：
CROATIAN	Ako trebate pomoć tumača telefonirajte:
GREEK	Αν χρειάζεστε διερμηνέα τηλεφωνήστε στο
ITALIAN	Se avete bisogno di un interprete, telefonate al numero:
MALTESE	Jekk għandek bżonn l-għajnuna t'interpretu, çempel:
PERSIAN	: اگر به ترجمه شفاهی احتیاج دارید به این شماره تلفن کنید:
PORTUGUESE	Se você precisar da ajuda de um intérprete, telefone:
SERBIAN	Ako vam je potrebna pomoć prevodioca telefonirajte:
SPANISH	Si necesita la asistencia de un intérprete, llame al:
TURKISH	Tercümana ihtiyacımız varsa lütfen telefon ediniz:
VIETNAMESE	Nếu bạn cần một người thông-ngôn hãy gọi điện-thoại:

TRANSLATING AND INTERPRETING SERVICE
131 450
Canberra and District - 24 hours a day, seven days a week

The

ACT graphic on what equipment you need to stay and fight is exemplary for demonstrating the power of pictures.

The ACT ESA has a comprehensive information web site on fire. Just considering the stay or go issue:

Things you can do - BEFORE A BUSHFIRE

Decide Whether You Should Stay or Go

Every home is different. That's why each household needs to develop their own Household Bushfire Emergency Plan. Part of that plan should be a decision whether some or all of the household members should leave, and the conditions which would lead to the decision to evacuate.

If you have made a decision to stay, and you are thoroughly prepared, you should stay with your home in the event of a bushfire.

Research conducted following major bushfires in Australia has concluded that most buildings destroyed during bushfires are lost as the result of initially small fires started by embers.

People whose houses are well prepared; who themselves are fit, able and prepared; and who take shelter in their homes while the fire front passes have an excellent chance of surviving a bushfire and of saving their homes.

Need more help to decide, then see the following checklist:

CHECKLIST TO HELP YOU DECIDE IF YOU SHOULD STAY OR GO

Your decision to stay or go should be discussed and decided with other members of your household well in advance of any bushfire threat.

Checklist - Answer YES or NO to the following questions:

- Do you understand the local bushfire risk and how to prepare your house for this risk?
- Have you removed things that can burn from around your home?
- Do you have basic firefighting equipment (hoses, metal buckets, protective clothing etc.)?
- Do you have an alternative water source (filled bath, wheelie bin, pool, pond, etc.)?
- Are you physically fit and mentally prepared to cope with the stress of firefighting?
- Do you have plans to assist members of your household who would need assistance?
- Do you have plans to look after pets or livestock in the event of a fire?

If your answer to all these questions is yes, then you can have greater confidence in your decision to stay with your home. Read more on preparing your home.

Decision - If some of your answers are no, you may plan to go:

If you plan to leave:

- consider any special needs, such as transport, essential medications, small children's needs and other support you may need;
- plan what you would take in a small case containing essential personal documents, photos and other prized possessions;
- prepare your pets and protect your home;
- plan an evacuation route - consult a local map and decide on at least two alternative routes you could take if you have to evacuate quickly - listen to the local radio stations to check road closures in case of an emergency; and
- **if you plan to go - GO EARLY.**

If you decide to go, or to have some members of the household leave the home, you must depart early, well before the fires reach your vicinity.

**Last minute evacuations from bushfires
contribute to the majority of casualties because
people may be caught in exposed situations.**

People such as the very young, the elderly, people with disabilities, those who feel they would not cope with the trauma of fire, and those who have not taken

sufficient measures to protect their homes should leave if there is sufficient time to do so. There is information in this booklet regarding things to consider if you, or someone you know, have special needs. If you need further information, advice or assistance regarding these issues call Canberra Connect on 13 22 81.

Further information

- [Stay or Leave](#)
- [Makingthe Decision](#)

If you need more information to help make the right decision for your household, please read the [Australasian Fire Authorities Council protocols \(PDF 168KB\)](#) or write to:

From http://www.esa.act.gov.au/Fire_Safety/Before/stayorgo.html

Finally for the ACT: a newer style of booklet was issued in 2004. A page on evacuation follows.



Bushfires and the Bush Capital

Making that important decision

The Emergency Services Authority recommends that people make their decision well before the summer fire season to either stay and actively defend their property or to leave the area before fire threatens. Research shows that many people make unsafe choices that can have serious consequences.

Leaving your property late and being on the road when the fire is very close can have serious, life threatening consequences.

Research has shown that there are some common but inappropriate ways people respond when a bushfire threatens:

Leaving Late

Many people leave their home when they become aware of a fire burning nearby. Unfortunately, often they only become aware of the fire when it is very close by, making it dangerous to leave. On high fire risk days, listen to the radio for regular fire updates, and stay alert.



Some people wait and see what is going to happen and then leave if threatened. People who undertake this course of action usually stay with their home during the early stages of the fire and wait and see if it will impact on them. They leave their home when they perceive the fire is going to threaten their personal safety.

Consequence of unsafe choice

Leaving your home late when you can see flames burning nearby can be a deadly option and you are putting your life, and possibly others, at serious risk by exposing yourself to radiant heat. Reduced visibility will make road travel hazardous and you may not know what direction the fire is headed, or there could be a number of spot fires moving ahead of the main fire front.

Staying with an unprepared property

Some people have done little or no preparation but decide to stay anyway, taking shelter inside their home. If you intend to stay with your property during a bushfire



you must be prepared.

Consequence of unsafe choice

If you have not undertaken the necessary preparation you may not have the right equipment and therefore would be unable to put out small fires around your home. If you find yourself in this circumstance use whatever items you have such as mops and buckets to extinguish small fires.

The house will protect you from radiant heat as the fire front passes. Do not attempt to flee as the fire approaches. If you stay alert you will know when it is safe to exit the building and move to burnt ground, after the main fire front has passed. Remember that your house may have caught fire during the passage of the fire front so you need to exit the building as soon as conditions outside allow you to do so.

http://www.esa.act.gov.au/Community_Ed/Bushfires_and_the_Bush_Capital/making_the_decision.html

Unfortunately, the picture of the gear needed to defend does not seem to be in the newer publication. However, the ACT ESA has also left the older booklet on their web site. From http://www.esa.act.gov.au/Community_Ed/Bushfire_Information_Kit/index.html

2.3.4 Northern Territory

Information booklet includes stay or go advice:

Should I stay or should I go?

Well before a bushfire, you will have to make a decision whether to evacuate or stay.

Go early if:

- you or family members are not physically or mentally prepared to undertake firefighting activities.

- you do not think you are capable of dealing with the trauma associated with a bushfire situation or just don't want to remain.

Stay only if:

- you are physically and mentally prepared.

- your property is well prepared.

- you have carried out a self-assessment to make sure you have the capability to defend your property.

- you have a plan.

Unless you have undertaken preparations well ahead of the bushfire season and have the right equipment, your chances of protecting your property are greatly reduced.

If I stay

What to do when the fire arrives:

- Listen to the radio for news rather than calling emergency services for information.

- Put on your protective clothing and equipment.

- Block down pipes and fill gutters with water.

- Turn off gas at cylinder.

- Turn on any sprinkler systems and wet down all the walls facing the fire.

- Remove fibre doormats and outdoor furniture away from the house.

- Close all windows and doors.

- Take curtains down and push furniture away from windows.

Move all family members to a room furthest from the fire front.

- Fill baths, sinks and other water containers and place them around the house.

- Block spaces beneath doors with towels and blankets to keep the smoke out.

- Once the fire front has passed, check the house thoroughly for small spot fires, smouldering material or glowing embers.

- Be alert for spot fires particularly in the roof spaces.

- Continue checking for spot fires inside the ceiling as well as the immediate surrounds of your house for at least two hours after the fire has passed.

- Drink plenty of water to avoid dehydration.

- Stay calm.

If I go

What should I do if I decide to evacuate?

It is important that your decision to evacuate is made well in advance of the bushfire, and that you have an evacuation plan. Your plan should include the following:

Make the decision and take action to evacuate early to avoid being caught in traffic or the fire itself.

Load your evacuation box containing blankets, water, first aid kit and medications into the vehicle.

Pack photos, videos, insurance documents and other valuables and keepsakes.

Remove any flammable furniture or materials adjacent to the house or on decks, verandas and pergola areas.

Remove and take provisions for the family pet/s.

Activate sprinklers on the roof or on the side of the house facing the oncoming fire.

Ensure all windows and doors are closed.

Be sure that everyone in the family knows the location of a pre-arranged meeting place, as well as evacuation routes.

Advise family and neighbours of your decision to evacuate and your intended location.

Take a battery powered radio to keep informed of the location of the bushfire and emergency advice.

If you have a mobile phone, take it with you.

The decision to stay and protect your home, or to evacuate, is up to you in most cases. It is important that you assess your resources, preventative actions, and capabilities, prior to making a decision. A decision to evacuate must be taken before the fire enters your area. Either way, you must plan ahead.

From: http://www.nt.gov.au/pfes/fire/community/bushfire/images/bushfire_booklet_lr.pdf

Tasmania

The Tasmania Fire Service site is approachable and easy to move around. The hyperlinks seemed appropriately placed. Just focusing on the stay or go content:

If you choose to stay:**As the fire approaches?**

1. Listen to the radio for news of the bushfire (use a transistor or car radio if the power is off).

2. [Dress](#) in a long-sleeved cotton shirt, cotton trousers (jeans), boots and a cotton cap.
3. Clear roof gutters of leaves, and sweep or rake leaves from decks and lawns near the house.
4. Block your downpipes, (a sock full of soil will help) and fill your gutters with water.
5. Move flammable outdoor furniture, doormats and hanging baskets away from the house.
6. Close all doors and windows, remove curtains, and close shutters if you have them.
7. Put tape across the inside of windows so they remain in place if broken.
8. Fill the bath and any buckets and other containers with water. Put a ladder inside.
9. Extinguish any sparks, embers and spot-fires burning on or close to the house. A hose or a wet mop is handy for this.

When the fire arrives?

It's going to be hot, windy, dark, smoky and noisy, and there'll be lots of burning embers. But the fire should only take a few minutes to burn past your home.

1. If you need to shelter, take the hose and fittings inside and fit them to a tap in the laundry.
2. Check around the inside of your house constantly, including in the roof space.
3. If your house catches fire and you can't put it out, close all interior doors and shelter inside close to an exit. Leave the house when it is necessary and safe to do so.

Once the fire has passed?

1. Take your hose outside and put out any part of your house that is alight. Your neighbours may be able to help.
2. Check under the house and any decks, on the roof and inside the roof-space as well. Check around window frames and door jambs, and under the eaves.
3. Sparks and embers will continue to fall, so keep checking for several hours.
4. Have a drink of water every 10 minutes to avoid dehydration.



From: <http://www.fire.tas.gov.au/mysite/Show?pageId=colWhatToDo>

2.3.5 Queensland





Should I Stay or Should I Go?

Well before a bushfire, you will have to make a decision whether to evacuate or stay.

Go early if:

-  You or family members are not physically or mentally prepared to undertake firefighting activities.
-  You do not think you are capable of dealing with the trauma associated with a bushfire situation or just don't want to remain.









Stay only if:

-  You are physically and mentally prepared.
-  Your property is well prepared.
-  You have carried out a self-assessment to make sure you have the capability to defend your property.
-  You have a plan.

Unless you have undertaken preparations well ahead of the bushfire season, and have the right equipment, your chances of protecting your property are greatly reduced.

If I Stay

What to do when the fire arrives?

-  Listen to the radio for news rather than calling emergency services for information.
-  Put on your protective clothing and equipment.
-  Block down pipes and fill gutters with water.
-  Turn off gas at cylinder.
-  Turn on any sprinkler systems and wet down all the walls facing the fire.
-  Remove fibre doormats and outdoor furniture away from the house.
-  Close all windows and doors.
-  Take curtains down and push furniture away from windows.

From http://www.fire.qld.gov.au/communitysafety/bushfire/pdf/Bushfire_Prepared_Communities_contents.pdf

2.3.6 South Australia Country fire service

[This site has been largely reproduced, as perhaps the most coherent and complete householder guide to bushfire safety. Some information on flammables, sprinkler type and pets and animals – all very good information for home-owners in fire-prone areas]:

The most important decision that you and your family must consider before the onset of the Fire Danger Season is whether to stay and fight a fire, or to go.

Relocating in Advance

If you don't feel you could cope or if you have family members who may not be able to fend for themselves in a bushfire, you may choose to relocate to a safe haven early in the day. If the decision is delayed the risk of being caught out in a bushfire increases dramatically.

The Danger of Last Minute Evacuation

Experience throughout Australia has shown lives can be lost when people make a last minute panic stricken attempt to flee a bushfire. Life and property can be saved by able bodied people remaining in their homes, given adequate and timely preparation and planning.

CFS Protecting your Home

CFS can not guarantee the presence of a fire fighting vehicle and crew to protect every home in a major bushfire. It is therefore extremely important to plan for your family's safety and be self reliant.

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Making a Decision to Stay or Go

There are a number of complex and personal issues to be considered in your decision. These include:

- Are you physically able to defend your home?
- Are you mentally prepared to face fire?
- Will all of your household be able to cope?
- Are you prepared to stay with your house after the fire has passed?

You must assess your individual situation and decide now to either stay or go. *Some contingency planning may be necessary but flexibility should never extend to last minute evacuation.*

Planning to Stay

If you plan to stay you must prepare your property to ensure your family, pets and home will survive a bushfire.

Contingency planning is encouraged in case you are absent from your property and are unable to return to defend your home during a bushfire. Care should be taken if you *are* considering returning home - a decision is difficult to plan in

advance and can only be assessed on the day of the fire. Fires can move rapidly, change direction or start ahead of the fire front due to spotting. Personal survival is more important than property so consider the following factors when making your decision:

- Will you have time to get home safely?
- Is access going to be an issue?
- Will you be obstructing the authorities from accessing the fire scene?

Alternatively, if your lifestyle allows it, you may choose to stay home on a Total Fire Ban or high-risk day.

Life and property can be saved by able bodied people remaining in their homes, given adequate and timely preparation and planning.

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Planning to Stay

What to do during the year

- Prepare a 'home survival kit' and/or 'evacuation box'.
- Prepare a checklist of what you need to do before, during and after a bushfire.
- Clean up and manage fine ground fuels.
- Address any long standing problems

eg: close underfloor space

seal gaps around house

purchase and install water tank

landscape garden etc.

What to do before and during the fire danger season

- Check water supply and top up if necessary.
- Service fire pump and check at regular intervals.
- Reduce fine ground fuels.
- Clean gutters of any flammable debris.
- Move firewood away from house.
- Practice your 'bushfire action plan'.
- Check your 'home survival kit' and/or 'evacuation box'.
- Meet with neighbours to discuss your plans

What to do on 'Total Fire Ban' days

- Discuss the day's action with your family and/or neighbours.
- Check fire pump. Run for approximately five minutes and refuel.
- Listen to radio, scanner or keep a regular look out for telltale smoke.
- Water garden early in the morning.
- Wet down any problem areas.
- Keep pets in close proximity.
- Relocate livestock to a safer paddock.
- If you have to leave, close up your home and take your 'evacuation box' with you.

Houses as Safe Refuges

As the fire front approaches your property it is vital that you seek refuge from the radiant heat. Your home or a neighbour's house may be used as a safe refuge provided:

- You have done all the essential preparatory work throughout the year.
- All persons present have a good understanding of what to expect when the fire front arrives.
- You are vigilant in patrolling for sparks and embers and can observe the behaviour of the fire whilst inside.
- You have identified a room for the elderly, young or other less able bodied people to shelter in while able bodied people patrol the house for sparks and embers. This room should be away from the likely direction of the fire and have at least two exits.

A refuge is not meant to serve as a hiding place but a place of protection from the radiant heat until it is safe to return outside.

Water tanks

Avoid elevated water tanks as a safe refuge. Once immersed in water, the body will quickly absorb heat. If the ambient air temperature is in the high thirties and a bushfire raises the temperature of the water a further ten degrees, the water/body temperature will be unsurvivable.

Cellars

Seeking refuge in a cellar or underground garage should not be considered. If you have a purpose built area for fire protection, details about its use should be incorporated into your 'bushfire action plan'. When taking refuge from radiant heat you must continue to patrol for ember attack and observe the behaviour of the bushfire from a suitable point inside your house. This will enable you to move outside onto burnt ground if your house catches alight. It is not possible to do this when hiding in a cellar that has no windows and only one exit.

Swimming Pools

The use of swimming pools as a safe refuge is also discouraged. A house that has been adequately prepared against ember attack will provide a safer refuge than a pool. Although pools may provide adequate protection to parts of the body below the water line, the most sensitive parts of your body (face, head, lungs) will be exposed to radiant heat, smoke and superheated air.

Has my prevention work been properly completed?

To make your house safer during a bushfire there are a number of things you can do.

Identifying hazards around your home

Burning debris is carried by strong winds that accompany bushfires. These sparks and embers may enter your home through small openings such as vents or may be large enough to break windows and ignite curtains and furniture etc.

They may also settle on flammable material outside your home causing a small fire ('spot fire') to start. If this fire happens to be on your wooden deck, doormat or woodpile, it may eventually grow large enough to destroy your home. Walk around your home and identify the potential problem areas:

Reduce the amount of flammable material around the home

All flammable material that is within 20 metres of your house should be removed. This includes removal of dead eg: branches and fallen leaves and cutting long grass. On a slope greater ground clearance is desirable.

In order to reduce the threat to your house you should:

- Remove dry undergrowth and grass from around the home and buildings.
- Prepare a 20-metre fire protection zone around the home to reduce the danger from radiant heat and sparks.
- Establish a landscaped garden or vegetable garden, mow lawns, build wide paths, paving or driveways that can provide fuel breaks.
- Chemically treat the area around outbuildings and sheds to prevent the regrowth of vegetation.
- Cut back trees overhanging the roof and regularly remove leaves from the gutters.
- Remove flammable growth from around the base of trees.
- Prune lower tree limbs to provide a vertical firebreak to prevent ground fire spreading into trees.
- Provide space between trees and shrubs to remove the continuous line of vegetation to the house.
- Remove bark and wooden sleepers from areas in the garden near the house.
- Store flammable fuels and chemicals away from the house and secure in an enclosed shed.
- Clear all dry grass and bark mulch well away from the house.

Spark Proof the House and Buildings

To protect your house it is vital that you prevent sparks and burning material from entering through windows, under doors and/or under floor boards. This can be achieved by:

- Fitting metal fly wire mesh or solid screens to spark proof the windows, doors, ventilators and skylights.
- Close in all openings in eaves and under-floor areas.
- Sealing all gaps in the roof area along the ridge cap gutter line and fascia board.
- Extending wall cladding on buildings and sheds to the ground.
- Sealing the flute spaces at the fascia board with fibreglass insulation or scribed flat metal with corrugated iron roofs.
- Tiled roofs require an appropriate fire rated insulation (sarking) immediately below the tiles

Roofing

Most homes ignite when sparks or burning embers blow under tiles and start burning roofing timbers or accumulated litter. Metal roofing offers more protection provided it is firmly secured and sealed around vents, skylights, fascias and roof caps.

Underfloor

Underfloor areas that are not enclosed allow sparks and embers to penetrate. If these areas are used to store timber, firewood, or other flammable materials, the risk is compounded. Make sure that underfloor areas are kept clear of flammable material during summer.

Windows and Vents

Crevices where embers can collect are potential ignition points. Cracks under doors, on window ledges, windows, or along verandas are particularly vulnerable. Vents into the house structure are also common entry points for sparks. They should be covered in fine wire mesh to prevent embers from getting into walls, roof cavity areas or through windows.

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Landscaping

Landscaping refers to the **location** and **maintenance** of **selected** plant species around a building to improve its chance of surviving a bushfire. Correctly managed vegetation can provide many benefits during a bushfire including:

- reducing fire intensity,
- reducing wind speed,
- deflecting and filtering embers, and
- providing shelter from radiant heat.

Locating Vegetation

The following points should be considered when siting vegetation for fire protection:

- mown lawn or grazed green grass is most appropriate immediately surrounding buildings,
- plantings near buildings should use low hazard vegetation. Plant highest hazard vegetation away from buildings or not at all,
- trees and shrubs should not be planted closer to buildings and powerlines than the distance equal to their mature height,
- space trees and shrubs so that there is not a continuous canopy or line of vegetation from bushland to house, and
- locate well watered fruit trees and vegetable gardens on the side of buildings facing the most likely direction of fire.

[The SAFS has detailed, informative, plain-English sections on vegetation, the absolute need for water reserves and a stand-alone pump, windbreaks, sprinklers and animals. Space precludes reproducing that here. Readers are

encouraged to visit their site. Most people from fire-prone areas would directly benefit from this information. Examples are:

**Low
Hazard-
fire
retardant**

Salt rich plants

Eg: Saltbush, boobialla

- Position your driveway on the side of your house most likely to be impacted by fire.
- Build a stone wall, earth mound, hedge or covered fence close to your house as a radiant heat shield.

Fire retardant plants can absorb more of the heat of the approaching bushfire without burning than flammable plants. Fire retardant trees can trap embers and sparks and reduce wind speeds near your house if correctly positioned and maintained. Fire retardant ground covers can be used to slow the travel of a fire through the litter layer and fire retardant shrubs can be used to separate the litter layer from the trees above.

... the loss of a loved pet is usually, especially for children, just as upsetting as the loss of a home and personal possessions. The heartache can be avoided if; when developing a bushfire family action plan, pets and other livestock are included].

**Personal Survival
Radiant Heat**

Radiant heat is the major cause of death during bushfires. If you put your hand near an open flame, an electric heater or light bulb you can feel the radiant heat it generates. Draw your hand away and the amount of heat you feel on your skin decreases. Put something between your skin and the heat source and again your skin feels immediately cooler. That's all you need to remember about radiant heat from bushfires – **distance** and **shielding** protect you from dangerous exposure.

The danger is real. Radiant heat from the flame front of a bushfire scorches vegetation well in front of its path and kills animals caught in the open. People also die if they do not seek protection. Death is caused by heat stroke, when the body's cooling system fails, leading to heat exhaustion and death.

To Manage Radiant Heat:

- decrease fire intensity by reducing fine fuels around your home prior to the fire danger season,
- move away from the heat source, and
- establish a barrier between the heat source and yourself, for example:
- a solid wall

- another building
- protective clothing
- blankets
- landscaping features such as embankments and terracing etc.

How People Die in Bushfires

Heat Stress:

The human body operates most efficiently between a narrow range of temperatures. Once it exceeds the uppermost limits, physiological failure begins and this can lead to collapse and death.

Heat stress can be managed by:

- Wearing sensible clothing: clothes of natural fibre that allow air flow and are not too hot.
- Drinking lots of water.
- Sheltering from radiant heat as much as possible, especially when the fire front arrives.
- Avoiding unnecessary exertion.
- Avoiding elevated water tanks. Once immersed in water, the body will quickly absorb heat from the water. If the ambient air temperature is in the high thirties and a bushfire raises the temperature of the water a further ten degrees, the water/body temperature will be unsurvivable.

Dehydration

Very hot conditions plus excessive stress and exertion during bushfires will rapidly lead to loss of fluids and subsequent dehydration. In a bushfire situation a person could lose up to 2 litres/hour. Symptoms of dehydration, such as tiredness, irritability, irrational behaviour, loss of coordination, may lead to collapse and in extreme cases death.

Dehydration can be managed by regularly drinking water, about 1 cup every 5 to 10 minutes. It is easier to manage where there is more than one person present so that one can look after the other.

Burn Injuries

Burn injuries occur when a body is exposed to intense heat and can be managed by avoiding being in the wrong place at the wrong time. This requires understanding and planning.

Physical Injuries

Bushfire events are conducive to accidents because of factors such as poor visibility, high stress and adrenalin levels. This leads to confusion, poor decision making, loss of concentration and tunnel vision.

The risk of physical injuries can be managed by being extra careful. People should be aware of the likelihood of injury whilst carrying out fire protection/suppression activities. Good planning is also important in preventing physical injuries. Good planning leads to confidence, which reduces stress levels. Good planning also means less stressful decisions need to be made on the spot and is conducive to more controlled behaviour.

Lung Injuries

In a building fire the most common hazard to humans is from smoke and toxic gases. Death often results from oxygen deprivation in the bloodstream, caused by the replacement of oxygen in the haemoglobin by carbon monoxide. While this is a major cause of death in house fires it is uncommon in bushfires. In bushfires smoke contributes indirectly to death by obscuring visibility, irritating the eyes and lungs and causing stress.

Lung injuries can be managed by protecting the lungs from smoke and super heated air. It is important to seek shelter when heat and smoke are most intense. Nose and mouth should be covered with a dust mask, wet towel or scarf etc. A special filter mask for people suffering with respiratory conditions such as asthma should be included in your survival kit.

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Survival Kits

Home Survival Kit

If planning to stay and defend your home organise a fire cupboard, box or bag at the beginning of the fire danger season. Pack it with protective clothing for all members of the family and ensure all household members know its location. Even if you are planning to leave you should still prepare a survival kit as part of your contingency planning.

Protective Clothing

- Gloves – sturdy garden or rigger variety, not rubber or synthetic.
- Sturdy shoes or work boots – with thick leather soles.
- Hat or hard helmet – with a broad rim for protection from sparks and embers.
- Long sleeved shirt and trousers – made from natural fibres to protect skin and body from radiant heat.
- Mask – such as a wet handkerchief or towel for face protection and to filter smoke. Special filter masks are recommended for asthmatics
- Goggles or glasses – to protect eyes from smoke and embers.

Useful Items for Fire Fighting

- **Hoses**– 19mm reinforced garden hose or specialised fire fighting hose that is long enough to reach all corners of your house.
- **Knapsack/Garden sprayer** – to suppress small spot fires. (be aware that when full knapsacks can be very heavy. Consider half filling it for greater portability).
- **Metal buckets and mops** – for protecting your home from ember attack.
- **Towels** – wet towels can be placed under doors and on window seals etc to prevent embers from entering your home.
- **Protective woollen blankets** – avoid using rubber backed picnic rugs.
- **Ladder** – made of metal and tall enough to allow you to check roof cavity and eaves.
- **Torch** – to help you check roof cavity. Ensure you have a good supply of spare batteries.
- **Radio** – listen to the radio for notification of ‘Total Fire Ban’ days and ‘phase warnings’.

- **Spare batteries** – for the inevitable!

Evacuation Box

If planning to go in the event of a fire (or on any high fire risk day) you should take a pre-prepared 'evacuation box' with you to your chosen refuge. This box should be prepared well before the start of the fire danger season and stored in an easily accessible place. Both your family and pets need to be considered when preparing your evacuation box, for example:

Family:

- woollen blanket
- container of water
- first aid kit
- photos and videos
- insurance documents
- other documents
- medications etc

Pets:

- pet food
- dish for water
- leash/cage
- medications
- vets phone number

Vehicle preparation

During the fire danger season it is essential that some vehicle preparation is considered in case you are caught in the passage of a fire whilst travelling. Be sure that your car is in good order:

- Never travel with a faulty exhaust pipe or muffler.
- All vehicles should have a woollen blanket, container of water and a first aid kit.
- Asthmatics may need a special filter mask kept in vehicles.
- Vehicles should have adequate fuel, especially on high fire risk days if you plan to leave.

If you do need to shelter in your car:

- Drive your car into a clear area away from surrounding trees.
- Leave your headlights on.
- Roll up your windows and close off vents.
- Shelter below window level.
- Cover your body with woollen blankets to protect from radiant heat.
- Drink water frequently.

You may need to operate the windscreen wipers and drive back and forth from time to time to dislodge accumulating embers.

It will be a frightening experience but it is safest to remain in the car where there is protection from radiant heat

Firefighting Equipment

The most critical factor in house survival during a bushfire is the active defence of the property by able bodied people.

Extinguishing spot fires

Generally the easiest and most effective way to extinguish fire is to apply water. Therefore proximity to adequate water storage and its effective distribution is essential. If you are on a reticulated water supply, everyone in the area, including the CFS, will be using the mains water supply causing a severe loss in water pressure. What's more, on a day of extreme fire danger ETSA will actually turn off the electricity supply which means that once the mains header tanks are empty there will be no mains water at all. This will also affect residents who use an electric pump to obtain water under pressure from tanks or dams.

How much water will you need?

This is a difficult question to answer because some homes have been saved using bucketed water from a small gravity fed tank while others equipped with pools and pumps have been lost. However, the CFS recommends at least 5000 L for firefighting (using a fire pump with hoses etc) or 22000 L if you have installed a sprinkler system.

Water Storage Options

- Fill your kitchen sink, bath and laundry trough when you first become aware of fire.
- Place 200 L drums and buckets in strategic locations and fill at the beginning of the fire danger season.
- Rubbish bins and stock feed bins can be filled on high fire danger days.
- Your hot water service will always have water. Make sure you know how to access it safely.
- Tanks vary in size from 1000 L to 20000 L and materials include galvanised iron, concrete, fibreglass and polyethylene.
- A 64 mm London round thread (male) tap fitting will enable CFS to tap into your water supply.
- If your house is on mains water you can run it through a storage tank making sure it is always full.
- If you are considering a tank, why not spend a little more on a swimming pool and enjoy its added benefits?

Water Distribution Options

- Knapsacks - knapsack sprays are fairly heavy but may be half filled for greater portability.
- Hoses – use a large diameter garden hose (19mm) or specialised fire fighting hose. Hoses should be fitted with an adjustable firefighting nozzle that is capable of withstanding the pump pressure. Firefighting pumps – a 5hp petrol (3.7 kw) or diesel powered pumps with manual or electric start is ideal for most situations.

- Sprinkler systems – specially designed plumbing systems of strategically placed taps and sprinklers are extremely useful in areas of extreme fire danger.
- Other options – don't overlook the humble bucket and mop. They don't need fuel, can be relied on to function and will cope with most small fires.
- Pump and water supplies should be placed in an area that is protected from the impact of fire but still easily accessible.

Shutters for windows and sky lights

Another form of active protection is the use of metal shutters, which can be pulled down over exposed windows or placed over skylights in the event of a fire.

- Metal shutters provide protection from radiant heat and also prevent windborne debris from shattering glass allowing sparks and embers to enter the building.
- Shutters can be quite expensive so you may consider installing them on the windows facing the most likely direction of fire.
- Security mesh, metal fly wire and security grade 'tinting' are also suitable for protecting windows from windborne debris and may provide some protection from radiant heat.
- Be aware that although shutters increase your safety they do impede you from observing the progress of the fire once you have retreated inside your house.
- Ordinary blinds used to shade your windows may be an additional fire hazard as these are often made of flammable material and may actually trap sparks and embers.

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What to do in the Event of a Bushfire

All residents living in high-risk areas need to have a pre-prepared checklist of what to do in the event of a bushfire. Include simple things that can be acted upon *immediately*. To make your checklist easier to follow divide it up into things to do inside and outside the house before, during and after the bushfire has passed.

As fire front approaches

Inside

- Alert family and neighbours.
- Bring pets inside.
- Dress in protective clothing.
- Shut all doors and windows.
- Fill bath, sinks and buckets etc with water.
- Place wet towels in any crevices, such as gaps under doors etc.
- Take curtains down and push furniture away from windows.
- Place ladder in ceiling access ready to inspect ceiling cavity.

Outside

- Remove last minute combustibles from around house including flammable blinds, wooden furniture and doormats etc.
- Start pump for fire hose and/or roof sprinklers. *
- Wet down all areas on side of house facing the direction of the fire.
- Dampen window ledges allowing water to penetrate any gaps.
- Plug drains and fill gutters with water.
- Wet down any pre-determined problem areas.
- Patrol for spot fires and extinguish.

** Make sure to manage your water supply well, so that there is sufficient water left for when the fire front actually arrives.*

When fire front arrives

- Retreat inside house.
- Bring buckets, hoses, mops etc inside with you.
- Patrol inside for spot fires and extinguish.
- Check ceiling cavity.
- Drink plenty of water.
- Reassure family and pets.

After fire front has passed

- Return outside when safe to do so.
- Patrol for spot fires and extinguish.
- Continue to patrol for 3-8 hours.
- Let family and neighbours know you're okay.
- Continue drinking plenty of water.

What can you expect?

There will be a shower of sparks and embers as the main fire front approaches. This shower of embers will continue for several hours after the fire has passed. You should also expect strong winds and heavy smoke, which will make it dark and reduce visibility. When the fire front actually arrives it will generally pass within 5 to 15 minutes. During this time the radiant heat may become unbearable. It is therefore essential that you retreat indoors taking with you any firefighting equipment such as hoses and buckets etc that may melt if left outside.

What should you wear?

Shield your skin from radiant heat. Every member of the household should change in to long sleeved shirts, long pants (made from natural fibres) and sturdy leather foot wear at the first warning of fires in the area. After the fire front passes you should also wear a broad rimmed hat, gloves and goggles to protect your eyes from smoke and flying embers. Breathing through a wet towel helps protect you from superheated air.

Drink water Frequently

Remember to drink water frequently, preferably every 10 minutes to prevent dehydration. Your body will be under stress from heat, so fluids must be replenished.

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Planning to Go

If you decide to relocate then you must plan as carefully as you would to stay. Consider these points in your plan:

- When will you make your decision?
- Where will you go and when will you leave?
- How will you travel and what will you take?
- What if family members get separated?
- What will you do with your pets?

As with planning to stay contingency planning is encouraged in case you are unable to leave early.

When will you leave?

It may be appropriate to go to your chosen refuge on any day on which the bushfire danger is extremely high. If you decide to wait until a bushfire threatens, keep a regular lookout and monitor a radio or scanner. This will ensure you leave well in advance of the arrival of the fire front. ***Never wait until the last moment.***

Where will you go?

Find out if there is a designated community refuge nearby. Determine whether it is a building or an open space such as a football field so that you can make preparations to stay there (if it is a football field, for example, you may need protection from the heat and water to drink etc). Alternatively you may wish to shelter with family or friends in a nearby town or even in your well-prepared neighbour's house. Decide in advance where you will go, and ensure that it is a safe area.

What will you take?

You should take your pre-prepared 'evacuation box' for your family and pets.

How will you travel?

Travel by car if possible and if travelling with a neighbour organise it well in advance. Plan the route to your refuge and determine alternative routes in case fire should block your chosen route.

Preparation should also include having adequate fuel, a woollen blanket, container of water, and a first aid kit in the vehicle in case you are caught in the passage of a fire. Asthmatics may need a special filter mask.

What if family members are separated?

Plan what you will do in the event your children are at school or family are away at work. Find out the school policy if bushfire threatens (all schools should have a CFS approved bushfire action plan). Don't allow panic to drive anyone out in life threatening conditions searching for missing family members or pets.

What if you are unable to leave?

A situation may arise during a bushfire that makes it difficult or dangerous for you to leave, placing you in a situation where you *have* to stay. It is imperative therefore that you have a contingency plan to cater for such situations so you can seek refuge accordingly.

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Fire Safety Strategies for Community Groups

When living in a high fire risk area your first priority will be the safety of your immediate family and protection of your home. However, once you have this in hand you may want to develop survival strategies in conjunction with your neighbours or on behalf of a community group you belong to (such as Scouts, Girl Guides, Rotary, Friends of National Parks, Bushcare, Landcare etc). By working together with your neighbours or group you will be in a better position to prepare for fires, thereby increasing your chances of survival.

Community Strategies [**** this, or variations, should be widely distributed**]

Community strategies may include:

- making plans to care for young children, elderly and disabled people in the street in the event of a fire,
- making plans for your pets and your neighbours' pets,
- nominating a house in the street most likely to survive a fire for others to shelter in,
- developing phone trees to improve the chance of receiving an early warning if there is a fire in the area,
- organising working bees to reduce fuel hazards,
- improving access between properties,
- becoming familiar with each others fire fighting equipment,
- organising bulk buying of fire fighting equipment,
- developing a neighbourhood resource list,
- being aware of each others 'bushfire action plans' and sharing ideas and innovations
- contacting your local CFS brigade to find out about the fire history in your area,
- working together with your local brigade to learn how fires behave and how they destroy homes,
- conducting a street to walk with your local brigade to identify fire hazards,
- producing a map of your area, identifying property owners, local dams and other water supplies and providing a copy to your local brigade,
- checking with the local school to find out what they plan to do in the event of a fire,
- making your property firefighter-friendly – can tankers fit through gates and reach water supplies etc?
- establishing a crèche to free up adults to patrol against spark and ember attack

- obtaining a copy of Joan Webster's 'The Complete Australian Bushfire Book' to share amongst your neighbours,
- borrowing videos from CFS and inviting your neighbours to view them with you.

Community Fire Safe

Residents may choose to develop the above strategies in an informal way with just a few close neighbours or they may want to involve the whole street by forming a **Community Fire Safe** group. Community Fire Safe is a program initiated by the CFS, that encourages residents living in high-risk areas to form small action groups. These groups may consist of just a few families living in the same street or area who face a common bushfire threat.

In these groups people learn how fires behave and how they destroy lives and homes. With this understanding, they are able to develop the best strategies for themselves and their local community – strategies that work because they have community ownership and support.

Groups operate autonomously and focus on their own special needs but they draw on the support of CFS staff and volunteers whenever they need it. The program is flexible, supporting groups that develop in streets as well as existing groups such as Friends of National Parks, Landcare and Neighbourhood Watch who wish to incorporate fire safety.

Once a group has formed a Community Fire Safe Facilitator, with the assistance of CFS volunteers, will provide ongoing technical information and resources. This may take the form of a series of informal meetings where the group can discuss such issues as fire behaviour, fire prevention and house survival. It may also incorporate a street walk to help residents identify local fire hazards and familiarise themselves with the fire fighting equipment on their neighbours' properties.

Armed with this understanding, the groups can make decisions about the best way to protect themselves in a way that fits their lifestyle, environment, physical capabilities, finances and experience. In this way Community Fire Safe recognises that people are different and that there are many 'right answers' to fire safety.

Joint Community / Agency Level Strategies

An established Community Fire Safe group may look beyond their own small group and begin networking with other community groups, local councils, government agencies and non-government environmental groups to work together on fire prevention and land management issues.

Joint community/agency strategies may include:

- assisting local councils with the maintenance of roadside vegetation and fire breaks,
- working with local council to organise the disposal of garden refuse,
- lobbying local council and government agencies for particular fire prevention works to be undertaken,

- organising information sessions with other agencies such as SA Water, Forestry SA, SA Department of Environment, Heritage and Aboriginal Affairs on fire behaviour and fire management in adjacent bushland,
- establishing a Bushcare site or join an existing group,
- presenting articles/talks to other community agencies

Telephone trees

A 'telephone tree' is a method of communication between members of a defined community whereby information can be passed effectively using existing technology.

In its simplest form a phone tree may be a list of phone numbers of the members of the community. In its more complicated form it may have a defined structure and an agreed set of rules. [Much detail of phone trees is given. At the community fire safe level, the detail provides very useful start points. I highly commend this site as providing all the detail conscientious residents and agencies could need to properly address safety in fire preparedness].

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Last modified September 29, 2006

From: <http://www.cfs.org.au/>

2.3.7 State and Territory web-based information for householders

Northern Territory on cyclones

Although the NT fire site has already been referred to, it is interesting to note from the comprehensive cyclone fact sheets, included to show the overall similarities of the levels of preparedness and decisions householders must undertake, in a precautionary manner, to maximise their safety, no matter what the knowable threat- fire, flood or cyclone. Note there is cyclone safety maximisation information in 9 languages:

Cyclone Action Guide

- [Cyclone Action Guides foreign languages](#)

Before the cyclone season

- Check your house and roof are in good condition.
- Trim back trees and branches well clear of your house.
- Clear your property of loose material that could blow about and cause injury and damage during extreme winds.
- In case of a storm surge warning, know your nearest safe high ground and the best access route.
- Prepare an emergency kit (hold ready in home) containing such items as:
 - a portable radio and torch with fresh spare batteries
 - fuel lamp, candles and matches
 - water containers, canned food, can opener, self-contained cooking gear, and essential warm clothes and strong footwear
 - first aid kit and special medication
- Decide well beforehand where you intend to shelter: at home if it is safe, in an emergency shelter, or possibly with friends or relatives in a secure area.
- Include arrangements for the welfare of your pets and animals in your emergency plans.

Upon a cyclone warning

- Listen to all local radio/TV for further information.
- In your home secure doors, board or tape windows, remove items from walls in case of water damage.

- Store loose items inside; place documents, photos, valuables and clothing in plastic bags.
- Fill water containers, fuel car and place under cover. Then remain indoors!
- Prepare an evacuation kit (in small bags), consisting of your emergency kit plus personal essentials (including important documents such as passports and birth certificates) and valuables in plastic bags.

On warning of local evacuation*

- Lock your house; switch off electricity, gas, water, etc. Take your evacuation kit.
- Wear strong footwear (not thongs) and warm clothing for protection against cuts from debris.
- Heed warnings and follow advice given by Emergency Service personnel.

**Based on predicted wind strengths and storm tide height, it may be necessary to evacuate areas to avoid casualties. Be ready to move to high ground or shelters as directed by Police or Emergency Service personnel. High winds & flooded roads will be hazards during movement. Advice will be given on local TV and radio. Police and State/Territory Emergency Services will also give direct advice.*

When the cyclone strikes

- Stay inside and shelter well clear of windows in strongest part of house - cellar, bathroom, internal toilet or passageway.
- Listen to your portable radio for cyclone updates.
- If house starts to break up, protect yourself with mattress, rugs, blankets or tarpaulin. Anchor yourself to a strong fixture (such as water pipes) or get under a strong table or bed.
- Beware the calm 'eye'. Don't assume the cyclone is over - if a calm period is due to the 'eye', violent winds will soon resume from the opposite direction.
- If driving, stop - clear of trees, power lines and streams.

After the cyclone

- Don't go outside until advised officially that it is safe.
- Listen to local radio for official warnings and advice.
- If you had to evacuate, don't go home until advised. Use route recommended and stay calm.

- Don't make unnecessary telephone calls.
- Beware of fallen power lines, damaged buildings and trees, and flooded water courses.
- Don't ignore warnings and don't go sightseeing.

Note: Managers of resorts, hotels, motels and caravan parks should take steps to ensure visitors are familiar with the dangers and know what to do in the event of a cyclone.

Section 4 Regional web-based information for householders Mornington Peninsular, Vic.

“The Mornington Peninsula is a place that is considered as having many areas of high bush fire risk. Many people choose to live in the bush environment and therefore need to be aware of the surround they have chosen to live in and need to take precautions to assist in the protection of their life and property. Some of the high risk locations have been identified under the [Bush Fire Prone](#) mapping process.

Plan - Prepare - Survive will assist residents to identify a number of activities that can be undertaken to reduce the exposure to a bushfire. Everyone is different, every family has different issues to consider and address. This information may be of assistance to you when preparing for the summer period.

Please click here for [Plan - Prepare - Survive](#). “

From: <http://www.mornpen.vic.gov.au/documents/se/ep/fire%20prevention/Plan%20Pre%20pare%20and%20Survive.pdf>

A further web-based information source on the web has been posted by Grahame in November 2006 at: http://www.mornpen.vic.gov.au/Documents/SE/EP/Fire%20Prevention/Fire_Wise_Fire_Management_CD_and_Internet_Information.pdf

This site details issues of fuel load in a way residents can easily understand, with clear, descriptive photographs. With a few local variations, this type of information on property preparedness could be used as a template for other shires with other fuel-load types.

History tells us that when ever we have residential housing and vegetation in close proximity to each other there is an increased chance of fire damage to the housing in a bushfire. We also know there are many things we can do to assist in the prevention of loss to life and property in bushfires. For example;

The Mornington Peninsula Shire (the Shire) The Shire's Fire Prevention Officers conduct thousands of inspections each year to see if there are fire hazards on the land, where a hazard is identified a Statutory Fire Prevention Notice may be served under the Country Fire Authority Legislation to have the hazard reduced or removed. There is Municipal Fire Prevention Plan that assists the Shire to determine its fire management activities. The Municipal Fire Prevention Plan can be located on the Shire's web site at www.mornpen.vic.gov.au

The Country Fire Authority (CFA) has some very successful programs that include Bush Fire Blitz and Community Fire Guard to mention two. There are many other activities that CFA become involved in as well, these include media, publications, spending time explaining about fire behaviour to various groups and organisations, and the volunteer fire fighters spend a lot of their own time training in all aspects of fire management and responding to fire events. The CFA's Web site contains a lot of valuable fire related information. The CFA's web site is at www.cfa.vic.gov.au

The Department of Sustainability and Environment (DSE) is a government agency with a large amount of land in the Shire. DSE has fire management responsibilities on their land and contributes to the over all fire management effort on the Mornington Peninsula. DSE spends a lot of time on vegetation management, training its fire fighting staff and responding to fires. There is a vast amount of land management information on the DSE web site at www.dse.vic.gov.au

Each resident who chooses to live in, or close to a bush environment, needs to become involved in their own safety and personal protection.

Some of the activities that residents should consider are over the page. Other issues for thought include;

- The choice to stay and defend your home or leave the property on high risk days is yours to make. No one can make this choice for you.
- If you decide to stay and defend your property
- ☑ **The safest options are to "PLAN and PREPARE" your property so it is defensible.**
- Not only do you need to prepare the property but EVERY person in the home must also PLAN and PREPARE to survive.
- Are you a fit and capable person, do you have the ability to stand and defend? Do you have the right personal protective equipment and other necessary equipment? Does everyone know what the PLAN is?

- ✗ **The least safe options are;**
- ✗ **Stay in a house that is not PREPARED or defensible**
- ✗ **Stay if you are not capable of defending the property.**
- ✗ **Not making any decisions at all**
- ✗ **Making a decision, and then changing your mind at the last minute, and**
- ✗ **If you have decided to go, LEAVING LATE is the WRONG DECISION to make.**

<http://www.mornpen.vic.gov.au/documents/se/ep/fire%20prevention/Plan%20Prepare%20and%20Survive.pdf>



Removal of Fire Hazards

General Information and Advice

CFA's Central Fire Ban District

Dear Landowner

Property owners are requested to remove FIRE HAZARDS by the **1st day of December this year** and then to maintain the property until the completion of the summer period including any CFA Declared Fire Danger Period. The following information may be of assistance to you.

- Cut any grass and undergrowth so that it is no higher than 75 millimetres.
- Remove flammable material that is 6mm (or less) in diameter. Remember, if you can pick it up, put it in a fireplace and set fire to it, then you should consider removing it as this FINE FUEL is kindling for a fire.
- Remove ANY rubbish or material that is likely to cause, maintain or promote a fire.
- Remove all NOXIOUS WEEDS from your own land.
- This information letter does not authorise the removal of any vegetation whatsoever. Please consult with Council's Town Planners on phone 1300 850 600 before removing "any" vegetation.

- **PLEASE BOOK YOUR CONTRACTOR TODAY.** The demand on contractors' time is very high leading up to summer, unless the contractor is pre booked to carry out your Fire Hazard Reduction work you may not get your work completed before the fire season comes is Declared by the CFA.

- ✘ An application for a permit to burn is no longer available in residential areas. Mulching is always a good option for the disposal of unwanted vegetation. Please visit the Shire's web site for information on open air burning www.mornpen.vic.gov.au

To avoid statutory Fire Prevention Notice being issued that may give you 7 days to carry out fire hazard reduction work, please prepare your property well before the summer period. Failure to comply with a Statutory **Fire Prevention Notice** may result in an infringement being issued and compulsory clearance of the land at the owners' cost.

The Shire recommends that you attend to the fire management work on your property during the whole year, and not just the summer period. The Shire's Fire Prevention Officers are available to offer sound and practicable fire management advice. Please phone 1300 850 600 to speak to one of the Officers.

Grahame N Robertson
Municipal Fire Prevention Officer

<http://www.mornpen.vic.gov.au/documents/se/ep/fire%20prevention/Fire%20Management%20Gen%20Info%20and%20Advice.pdf>

Finally, for this first review of web-based fire information is a clear Fire Guard link from the Yarra Ranges:



Community Fire Guard

Community Fireguard Groups are self help autonomous local groups of residents supported by the CFA for advice. Groups look at assisting each other in compiling personal safety plans and managing their properties to protect them against bushfire. The Shire of Yarra Ranges supports the Community Fireguard network through funding of the newsletter.

Further Information

Community Fireguard groups are supported by the CFA to assist residents with fire safety and bushfire survival strategies.

The Shire of Yarra Ranges currently has 153 Community Fireguard groups - if you think you should be a member of one of them, telephone 1800 240 667 or access the website link below to find out more about CFA community programs.

Links

External Web Links

- [CFA Community Programs](#)
- [CFA Home Page](#)

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Date Printed: 21/11/2006

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Source: <http://www.yarraranges.vic.gov.au/>

From: http://www.yarraranges.vic.gov.au/page/PagePrint.asp?Page_Id=451

This householder bushfire web information review shows that there is a great amount of useful safety-oriented information. One site has multiple languages. It is also noted there are virtually no pictures, no diagrams or photographs to help make the local threat real to people without bushfire knowledge. Could this representative web information be centralised for known, easy web access, then linked back by an interactive map to local variations, maps and unique considerations?

If one central web start point for **dangerous weather** is agreed to, perhaps the outline of core messages is as suggested in the prior section. Graphics would need to be chosen.

4 Discussion

A few things are clear from this web review of material available to householders: there is much information on the web. There is a lot of duplication. Some web sites are not comprehensive. Some offer many related links, some offer few links. Multi-lingual information is underrepresented and where available tends not to link to available sites. There is a need for one rational national web site, an all hazards approach. Combining the information in this section with survey results of section 5, it is clear that a post-code or zoom-in map entry level for fire threat information is needed. The massive duplication of good material, whilst there was only one found graphic on 'geared needed to protect your home' speaks of a clear need to rationalise web-delivered fire information. Further, reports from the 2008 field work indicate that CAP, Common Alerting Protocols, will mean that the web will step forward as a strong means of delivering 'now' local information to those under threat, and to their nearest media outlets. The conceptual model presented in Section 3 will benefit from more fine local detail, pushing use of battery operated radios and use of web-to-air fine local information in crisis communication.

A web review of crisis communication will be undertaken around September 2008, to try to 'capture' what the Agencies are doing as far into this research timeframe as possible – these are rapidly evolving systems.

5 Conclusions

Much useful web information is duplicated many times, whilst there are gaps in the information delivered on many of the individual sites. A rational national approach would take much web information maintenance from individual site managers, and allow users the spectrum of information sought – property and house preparations, stay and defend or level early, gear needed to stay and defend, recovery issues, local detail, real local information as fireweather or fire threat increases in real time. The potential for all this to be provided through the Common Alert Protocol framework is high, and just requires jurisdiction managers to remember the core business is to help people get safe and stay safe.